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EXAMINER

TRAN, DOUGLAS Q

ART UNIT	PAPER NUMBER
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2624

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/613,700

Applicant(s)

ROBLES, ROGELIO

Examiner

Douglas Q. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07/11/00 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2,3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Objections

2. Claim 30 objected to because of the following informalities: a dependency of the claim 30 is not correct. The method claim 30 should depend on the method claim 29 not on the apparatus claim 28 is not correct. Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4, 6-16, 18-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Second Embodiment and Third Embodiment of Owa et al. (US Patent No. 6,348,971 B2).

As to claim 1, Owa, with respect to the second embodiment "figures 7-17", teaches a system (fig. 7) for printing a print job, the system comprising:

a plurality of printers (i.e., 31a, 31b, and 31c in fig. 7);

a print job distribution system (i.e., print data generation system 21 in fig. 7) which assesses characteristics of the print job (30 in fig. 7 indicates the document includes color and monochrome data. Col. 8, lines 18-21, 30-35 indicates that the user information detection means 22 for assessing the characteristics of the print job by detecting and retaining user information for each print page based on at least specified print contents such as user print conditions and document features) and distributes the print job among a number of printers of the plurality of printers based on the characteristics of the print job (fig. 7 and col. 8, lines 52-60 indicates that the color print page group 30a and the monochrome print page group 30b of the print job are transmitted to the color printer 31a and the monochrome printer 31c, respectively. In summary, the print job is distributed to among a number of printers of the plurality of printers based on the characteristics of the print job).

However, Owa does not teach how a print job distribution system (21 in fig. 7) to distribute the print job to a number of printers so that the number of printers completes the print job at substantially one time.

Owa, with respect to the third embodiment "fig. 8" and from col. 16, lines 32-57", teaches that the print data such as the color print data, which takes longer to print, is transmitted preceding any other data (col. 16, lines 34-35 and 42-44. It is noted that although the transmission timing for the number of print portions to the printers is different, the number of print portions is transmitted to the printers in parallel. Thus, a number of print data are transmitted at a substantially one time such that the number of printers completes the print job at substantially one time).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the print data generation system 21 from the second embodiment of Owa for distributing the print job such that the number of printers complete the print job at substantially one time as taught by the third embodiment of Owa. The suggestion for modifying the print data generation system 21 from the second embodiment of Owa can be reasoned by one of ordinary skill in the art as set forth above by the third embodiment of Owa because the modified system would increase the advantages and efficiencies for the print data generation system 21 by processing the number of the different characteristics of the print data from a print job at the substantially one time and distributing them to a number of printers for printing at substantially one time. Such advantage of the modified system allows the print data generation system 21 to reduce the printing process and allows a user to pick up the printed document at the same time.

As to claim 2, Owa discloses every feature discussed in claim 1, and the second embodiment of Owa further teaches that the print job distribution system (21 in fig. 7) includes a print job assessment system (i.e., information detection means 23 in fig. 7 which would have the similar function as the print job assessment system) which assesses the characteristics of the print job (col. 8, lines 18-21, 30-35 indicates that the user information detection means 22 for assessing the characteristics of the print job by detecting and retaining user information for each print page based on at least specified print contents such as user print conditions and document features), a printer ability assessment system (i.e., printer selection means 25 in fig. 7 which would have the similar function as a printer ability assessment system) which assesses a printing ability of the plurality of printers to print the print job (col. 8, lines 24-27, 35-44 indicates that

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the printer selection means 25 for assessing a printing ability of printers by selecting a printer appropriate for printing for each page based on the printer state of each printer 31a-31c), and a print job allocation system (i.e., the setting means 26 in fig. 7 would have the similar function as a print job allocation system) which allocates the print job among the number of printers based on the characteristics of the print job and the printing ability of the plurality of printers (col. 8, lines 27-29, 44-48 indicates that the setting means 26 for allocates the print job by sets the print data generation means for generating the print data so as to relate the means to each of the selected printers).

As to claim 3, Owa discloses every feature discussed in claim 2, and the second embodiment of Owa further teaches that the print job allocation system (i.e., the setting means 26 in fig. 7) divides the print job into a number of print job portions among the number of printers such that all the print job portions are finished at substantially the same time. (Col. 8, lines 56-60 indicates the setting means 26 for divides the print job into a number of print job portions among the number of printers by setting the print data generation means 22 for generating a number of print job portions such as the print page groups 30a and 30b for printing related to each of the printers 31a and 31b in fig. 7. Therefore, the print job is processed and its portions are established and finished at substantially the same time).

As to claim 4, Owa discloses every feature discussed in claim 3, and the second embodiment of Owa further teaches that the number of print job portions includes a number of sequential print job portions (it is noted that the printer selection means 25 for selecting a printer appropriate for printing each print page "col. 8, lines 35-38", and each print page is converted into print data by the print data generation means 22 so that it is printed at an appropriate printer

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“col. 8, lines 46-47”; and each of print page portions 30a and 30b would includes sequential print job portions such as page 1 to page 10 and page 15 to page 25 and page 11 to page 14 “in fig. 12b”).

As to claim 6, Owa discloses every feature discussed in claim 3, and the second embodiment of Owa further teaches that the print job weight of each of the number of print job is not equal (col. 8, lines 49-50 indicates the document data is sorted into one or more print page groups “or portions” in response to the user information and document features “col. 8, lines 18-21” and is converted into print data for each group. Therefore, one group has the different information or the different number of pages with other group, for example, the screen in fig. 12b indicates a printer 13 for printing page 1 to page 10 and page 15 to 25 and a printer 11 for printing page 11 to page 14).

As to claim 7, Owa discloses every feature discussed in claim 2, and the second embodiment of Owa further teaches that the printing ability of each of the plurality of printers is equal (the printer state management table in fig. 9a. indicates that the print system can install two or more printers in which some of the printing ability of printers are equal such as the color printers or monochrome printers. Thus, if the printing system just installs only two monochrome printers, then each of printers would be considered to be equal).

As to claim 8, Owa discloses every feature discussed in claim 2, and the second embodiment of Owa further teaches that the printing ability of each of the plurality of printers is not equal (the printer state management table in fig. 9a shows the printing ability of each the plurality of printers is not equal. For example, prn11 and prn12 are different type, prn12 and prn13 is different color characteristics and prn13 and PRNn are different print resolution).

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As to claim 9, Owa discloses every feature discussed in claim 2, and the third embodiment of Owa further teaches that the print job allocation system minimizes a time required for printing the print job (it is noted that since the print job is divided into a number of print job portion or groups which are transmitted to a number of printers for printing groups at substantially one time, a time required for printing groups of that print job is shorter than a time for printing an undivided print job by one printer).

As to claim 10, Owa discloses every feature discussed in claim 1, and the second embodiment of Owa further teaches that the characteristics of the print job include at least one of a file size of the print job, a format of the print job, a layout of the print job, and a content of the print job (col. 8, lines 18-21, 30-32 indicates that the characteristics of the print job include at least document feature such as color data or monochrome data which is content of the print job).

As to claim 11, Owa discloses every feature discussed in claim 1, and the second embodiment of Owa further teaches that the characteristics of the print job includes at least one of a paper size and margins for the print job, a number of words in the print job, a number of characters in the print job, a font size and type of the print job, and an image size in the print job (col. 8, lines 30-32 indicates that the characteristics of the print job include at least document feature such as font type, which includes font size, and color or monochrome print which would be considered as a type of the print job).

As to claim 12, Owa discloses every feature discussed in claim 1, and the second embodiment of Owa further teaches the print job distribution system monitors a status of the print job and a performance of the plurality of printers (fig. 12b and col. 12, lines 59-63 indicates the print data generation system 21 in fig. 7 of the host computer for monitoring and displaying

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the status of print job which is performing at the printers such as PRN11 and PRN13 on the screen 81).

As to claim 13, Owa discloses a method of printing a print job, the method comprising the steps of:

providing a plurality of printers (i.e., 31a, 31b, and 31c in fig. 7);

assessing characteristics of the print job (30 in fig. 7 indicates the document includes color and monochrome data; Col. 8, lines 18-21, 30-35 indicates that the user information detection means 22 for assessing the characteristics of the print job by detecting and retaining user information for each print page based on at least specified print contents such as user print conditions and document features) and

distributes the print job among a number of printers of the plurality of printers based on the characteristics of the print job (fig. 7 and col. 8, lines 52-60 indicates that the color print page group 30a and the monochrome print page group 30b are distributed to the color printer 31a and the monochrome printer 31c, respectively).

However, Owa does not teach a step of distributing the print job to a number of printers so that the number of printers completes the print job at substantially one time.

Owa, with respect to the third embodiment "fig. 8" and from col. 16, lines 32-57", teaches that the print data such as the color print data, which takes longer to print, is transmitted preceding any other data (col. 16, lines 34-35 and 42-44. It is noted that although the transmission timing for the number of print portions to the printers is different, the number of print portions is transmitted to the printers in parallel. Thus, a number of print data are

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transmitted at a substantially one time such that the number of printers completes the print job at substantially one time).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the step of distributing from the second embodiment of Owa for distributing the print job such that the number of printers complete the print job at substantially one time as taught by the third embodiment of Owa. The suggestion for modifying the print data generation system 21 from the second embodiment of Owa can be reasoned by one of ordinary skill in the art as set forth above by the third embodiment of Owa because the modified system would increase the advantages and efficiencies for the print data generation system 21 by processing the number of the different characteristics of the print data from a print job at the substantially one time and distributing them to a number of printers for printing at substantially one time. Such advantage of the modified system allows the print data generation system 21 to reduce the printing process and allows a user to pick up the printed document at the same time.

As to claim 14, Owa discloses every feature discussed in claim 13, and the second embodiment of Owa further teaches of distributing the print job includes assessing a printing ability of the plurality of printers to print the print job (col. 8, lines 24-27, 35-44 indicates that the printer selection means 25 for assessing a printing ability of printers by selecting a printer appropriate for printing for each page based on the printer state of each printer 31a-31c), and allocating the print job among the number of printers based on the characteristics of the print job and the printing ability of the plurality of printers (col. 8, lines 27-29, 44-48 indicates that the setting means 26 for allocates the print job by sets the print data generation means for generating the print data so as to relate the means to each of the selected printers).

As to claim 15, Owa discloses every feature discussed in claim 14, and the second embodiment of Owa further teaches of distributing the print job includes dividing the print job into a number of print job portions among the number of printers such that all the print job portions are finished at substantially the same time. (Col. 8, lines 56-60 indicates the setting means 26 for divides the print job into a number of print job portions among the number of printers by setting the print data generation means 22 for generating a number of print job portions such as the print page groups 30a and 30b for printing related to each of the printers 31a and 31b in fig. 7. Therefore, the print job is processed and its portions are established and finished at substantially the same time).

As to claim 16, Owa discloses every feature discussed in claim 15, and the second embodiment of Owa further teaches that the number of print job portions includes a number of sequential print job portions (it is noted that the printer selection means 25 for selecting a printer appropriate for printing each print page “col. 8, lines 35-38”, and each print page is converted into print data by the print data generation means 22 so that it is printed at an appropriate printer “col. 8, lines 46-47”; and each of print page portions 30a and 30b would includes sequential print job portions such as page 1 to page 10 and page 15 to page 25 and page 11 to page 14 “in fig. 12b”).

As to claim 18, Owa discloses every feature discussed in claim 15, and the second embodiment of Owa further teaches that the print job weight of each of the number of print job is not equal (col. 8, lines 49-50 indicates the document data is sorted into one or more print page groups “or portions” in response to the user information and document features “col. 8, lines 18-21” and is converted into print data for each group. Therefore, one group has the different

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information or the different number of pages with other group, for example, the screen in fig. 12b indicates a printer 13 for printing page 1 to page 10 and page 15 to 25 and a printer 11 for printing page 11 to page 14).

As to claim 19, Owa discloses every feature discussed in claim 14, and the second embodiment of Owa further teaches that the printing ability of each of the plurality of printers is equal (the printer state management table in fig. 9a. indicates that the print system can install two or more printers in which some of the printing ability of printers are equal such as the color printers or monochrome printers. Thus, if the printing system just installs only two monochrome printers, then each of printers would be considered to be equal).

As to claim 20, Owa discloses every feature discussed in claim 14, and the second embodiment of Owa further teaches that the printing ability of each of the plurality of printers is not equal (the printer state management table in fig. 9a shows the printing ability of each the plurality of printers is not equal).

As to claim 21, Owa discloses every feature discussed in claim 14, and the third embodiment of Owa further teaches of distributing the print job includes minimizing a time required for printing the print job (it is noted that since the print job is divided into a number of print job portion or groups which are transmitted to a number of printers for printing groups at substantially one time, a time required for printing groups of that print job is shorter than a time for printing an undivided print job by one printer).

As to claim 22, Owa discloses every feature discussed in claim 13, and the second embodiment of Owa further teaches of assessing the characteristics of the print job includes assessing at least one of a file size of the print job, a format of the print job, a layout of the print

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job, and a content of the print job (col. 8, lines 18-21, 30-32 indicates that the characteristics of the print job include at least document feature such as color data or monochrome data which is content of the print job).

As to claim 23, Owa discloses every feature discussed in claim 13, and the second embodiment of Owa further teaches of assessing the characteristics of the print job includes assessing at least one of a paper size and margins for the print job, a number of words in the print job, a number of characters in the print job, a font size and type of the print job, and an image size in the print job (col. 8, lines 30-32 indicates that the characteristics of the print job include at least document feature such as font type, which includes font size, and color or monochrome print which would be considered as a type of the print job).

As to claim 24, Owa discloses every feature discussed in claim 13, and the second embodiment of Owa further teaches of distributing the print job includes monitoring a status of the print job and a performance of the plurality of printers (fig. 12b and col. 12, lines 59-63 indicates the print data generation system 21 in fig. 7 of the host computer for monitoring and displaying the status of print job which is performing at the printers such as PRN11 and PRN13 on the screen 81).

5. Claims 5 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Second Embodiment and Third Embodiment of Owa et al. (US Patent No. 6,348,971 B2) as applied to claims 3 and 15, respectively, and in view of Fourth embodiment of Owa (fig. 19 and col. 16, line 58 to col. 17, line 11).

As to claim 5, Owa discloses every feature discussed in claim 3.

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However, Owa does not teach the print job weight of each of the number of print job is equal.

Owa, with respect to the fourth embodiment, teaches each print page is transmitted to each printer (col. 16, lines 60-63. It is noted that, for in this case, each print page becomes each print job is transmitted to each printer and if printers are color printers then each print page is color print page data. Thus, the print job weight of each of the number of print job would be considered to be equal).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the print data generation system 21 from the second and third embodiments of Owa for distributing a number of the print job to the number of printers in which the print job weight of each of the number of print job is equal as taught by the fourth embodiment of Owa. The suggestion for modifying the print data generation system 21 from the second and third embodiment of Owa can be reasoned by one of ordinary skill in the art as set forth above by the fourth embodiment of Owa because the modified system would increase the flexibilities for the print data generation system 21 for selecting each page to each printer. Such advantage of the modified system allows the printing system to reduce the time of the completed output of the printed document.

As to claim 17, Owa discloses every feature discussed in claim 15.

However, Owa does not teach the print job weight of each of the number of print job is equal.

Owa, with respect to the fourth embodiment, teaches each print page is transmitted to each printer (col. 16, lines 60-63. It is noted that, for in this case, each print page becomes each

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print job is transmitted to each printer and if printers are color printers then each print page is color print page data. Thus, the print job weight of each of the number of print job would be considered to be equal).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the print data generation system 21 from the second and third embodiments of Owa for distributing a number of the print job to the number of printers in which the print job weight of each of the number of print job is equal as taught by the fourth embodiment of Owa. The suggestion for modifying the print data generation system 21 from the second and third embodiment of Owa can be reasoned by one of ordinary skill in the art as set forth above by the fourth embodiment of Owa because the modified system would increase the flexibilities for the print data generation system 21 for selecting each page to each printer. Such advantage of the modified system allows the printing system to reduce the time of the completed output of the printed document.

6. Claims 25-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Ross (US Patent No. 5,465,213) and the second and third embodiment of Owa et al. (US Patent No. 6,348,971 B2).

As to claim 25, Ross teaches a system for producing a book on-demand, the system comprising:

a processing system (i.e., a master module) adapted to receive and process a book request for the book (col. 10, lines 23-24: the master module for receiving a book printing command from the kiosk), the processing system adapted to retrieve a data file (i.e., the book data) which

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includes contents of the book and produce a book body preparation command and a book cover preparation command from the data file (col. 10, lines 24-25: the master module retrieves the book data from the storage subsystem, and then the book cover data is sent to the color, raster printer for printing and the book body is sent to high speed, duplexing, raster printers for printing. Therefore, the data file or book data would include contents of the book and book cover preparation command and book body preparation command);

a book block preparation system (i.e., a printing server 113 in fig. 3) which prepares a book block of the book in response to the book body preparation command (col. 10, lines 27-28 describes that the book body data is sent from the printing server 113 to high speed, duplexing, raster printers “149 in fig. 3”. Therefore, the book body or block is prepared to be print at the printers by the printing server in response to the book body data or command from the book data);

a book cover preparation system (i.e., a printing server 113 in fig. 3) which prepares a book cover of the book in response to the book cover preparation command (col. 10, lines 26-27 describes that the book cover data is sent from the printing server 113 to color, raster printer “147 in fig. 3”. Therefore, the book cover is prepared to be print at the printer by the printing server in response to the book cover data or command from the book data);

a book finishing system (i.e., a binding server 115 in fig. 3) which assembles the book block and the book cover to form the book (col. 10, lines 28-30).

Although Ross teaches the book block preparation system prints the book block as a print job , and wherein the book block preparation system includes a plurality of printers and a print job distribution system which distributes the print job among a number of printers (col. 10,

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lines 27-28 describes that the book body data, would be a print job, is sent to a number of printers "149 in fig. 3"). Ross does not teach the print job is distributed to among a number of printers of the plurality printers wherein the number of printers complete the print job at substantially one time.

Owa, with respect to the second embodiment, teaches the print data generation system (21 in fig. 7) for distributing the print job to among a number of printers of the plurality of printers (fig. 7 and col. 8, lines 52-60 indicates that the color print page group 30a and the monochrome print page group 30b of the print job are transmitted to the color printer 31a and the monochrome printer 31c, respectively. In summary, the print job is distributed to among a number of printers of the plurality of printers "31a-c" based on the characteristics "or weight" of the print job); and Owa, with respect to the third embodiment "fig. 8 and from col. 16, lines 32-57", teaches that the print data such as the color print data, which takes longer to print, is transmitted preceding any other data (col. 16, lines 34-35 and 42-44). Therefore, a number of print data are transmitted at a substantially one time such that the number of printers completes the print job at substantially one time.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the print server 113 of Ross for distributing the print job to among a number of printers of the plurality printers wherein the number of printers complete the print job at substantially one time as taught by the second and third embodiments of Owa. The suggestion for modifying the print server 113 of Ross can be reasoned by one of ordinary skill in the art as set forth above by Ross because the modified system would increase the advantages and efficiencies for the print server 113 by distributing the number of print data groups from the

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print job to a number of printers at the substantially one time so that the number of printers complete the print job at substantially one time. Such advantage of the modified system allows the print system to reduce the printing process and allows a user to pick up the printed document at the same time.

As to claim 26, Ross and Owa teach every feature discussed in claim 25, and the second embodiment of Owa further teaches the print job distribution system (i.e., the print data generation system 21 in fig. 7) includes a print job assessment system (i.e., information detection means 23 in fig. 7 which would have the similar function as the print job assessment system) which assesses a weight of the print job (col. 8, lines 18-21, 30-35 indicates that the user information detection means 22 for assessing the weight of the print job by detecting and retaining user information and document features for each print page based on at least specified print contents such as user print conditions and document features), a printer ability assessment system (i.e., printer selection means 25 in fig. 7 which would have the similar function as a printer ability assessment system) which assesses a printing ability of the plurality of printers to print the print job (col. 8, lines 24-27, 35-44 indicates that the printer selection means 25 for assessing a printing ability of printers by selecting a printer appropriate for printing for each page based on the printer state of each printer 31a-31c), and a print job allocation system (i.e., the setting means 26 in fig. 7 would have the similar function as a print job allocation system) which allocates the print job among the number of printers based on the weight of the print job and the printing ability of the plurality of printers (col. 8, lines 27-29, 44-48 indicates that the setting means 26 for allocates the print job by sets the print data generation means for generating the print data so as to relate the means to each of the selected printers).

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As to claim 27, Ross and Owa teach every feature discussed in claim 26, and the second embodiment of Owa further teaches that the print job allocation system (i.e., the setting means 26 in fig. 7) divides the print job into a number of print job portions each having a print job weight and allocates the number of print job portions among the number of printers (Col. 8, lines 56-60 indicates the setting means 26 for divides the print job into a number of print job portions among the number of printers by setting the print data generation means 22 for generating a number of print job portions such as the print page groups 30a and 30b for printing related to each of the printers 31a and 31b in fig. 7. Therefore, the print job is processed and its portions are established); And the third embodiment of Owa teaches all the print job portions are finished at substantially the same time (col. 16, lines 34-35 and 42-44: the print data such as the color print data, which takes longer to print, is transmitted preceding any other data. Therefore, a number of print data are transmitted at a substantially one time such that the number of printers completes the print job at substantially one time).

As to claim 28, Owa discloses every feature discussed in claim 27, and the second embodiment of Owa further teaches that the number of print job portions includes a number of sequential print job portions (it is noted that the printer selection means 25 for selecting a printer appropriate for printing each print page "col. 8, lines 35-38", and each print page is converted into print data by the print data generation means 22 so that it is printed at an appropriate printer "col. 8, lines 46-47"; and each of print page portions 30a and 30b would includes sequential print job portions such as page 1 to page 10 and page 15 to page 25 and page 11 to page 14 "in fig. 12b").

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As to claim 29, Ross teaches a method of producing a book on-demand, the method comprising:

receiving and processing a book request for the book (col. 10, lines 23-24: the master module for receiving a book printing command from the kiosk), including retrieving a data file (i.e., the book data) which includes contents of the book and producing a book body preparation command and a book cover preparation command from the data file (col. 10, lines 24-25: the master module retrieves the book data from the storage subsystem, and then the book cover data is sent to the color, raster printer for printing and the book body is sent to high speed, duplexing, raster printers for printing. Therefore, the data file or book data would include contents of the book and book cover preparation command and book body preparation command);

preparing a book block of the book in response to the book body preparation command (col. 10, lines 27-28 describes that the book body data is sent from the printing server 113 to high speed, duplexing, raster printers “149 in fig. 3”. Therefore, the book body or block is prepared to be print at the printers by the printing server in response to the book body data or command from the book data);

preparing a book cover of the book in response to the book cover preparation command (col. 10, lines 26-27 describes that the book cover data is sent from the printing server 113 to color, raster printer “147 in fig. 3”. Therefore, the book cover is prepared to be print at the printer by the printing server in response to the book cover data or command from the book data);

assembling the book block and the book cover to form the book (col. 10, lines 28-30).

Although Ross teaches the step of preparing the book block includes printing the book block as a print job, and wherein the book block preparation system includes a plurality of

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printers and distributing the print job among a number of printers (col. 10, lines 27-28 describes that the book body data, would be a print job, is sent to a number of printers "149 in fig. 3"). Ross does not teach the print job is distributed to among a number of printers of the plurality printers wherein the number of printers complete the print job at substantially one time.

Owa, with respect to the second embodiment, teaches of distributing (by the print data generation system 21 in fig. 7) the print job to among a number of printers of the plurality of printers (fig. 7 and col. 8, lines 52-60 indicates that the color print page group 30a and the monochrome print page group 30b of the print job are transmitted to the color printer 31a and the monochrome printer 31c, respectively. In summary, the print job is distributed to among a number of printers of the plurality of printers "31a-c" based on the characteristics "or weight" of the print job); and Owa, with respect to the third embodiment "fig. 8 and from col. 16, lines 32-57", teaches that the print data such as the color print data, which takes longer to print, is transmitted preceding any other data (col. 16, lines 34-35 and 42-44). Therefore, a number of print data are transmitted at a substantially one time such that the number of printers completes the print job at substantially one time.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the step of distributing of Ross for distributing the print job to among a number of printers of the plurality printers wherein the number of printers complete the print job at substantially one time as taught by the second and third embodiments of Owa. The suggestion for modifying the print system of Ross can be reasoned by one of ordinary skill in the art as set forth above by Ross because the modified system would increase the advantages and efficiencies to the print systems by distributing the number of print data groups from the print job

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to a number of printers so that the number of printers complete the print job at substantially one time. Such advantage of the modified system allows the print system to reduce the printing process and allows a user to pick up the printed document at the same time.

As to claim 30, the second embodiment of Owa further teaches the step of distributing the print job includes assessing a weight of the print job (col. 8, lines 18-21, 30-35 indicates that the user information detection means 22 for assessing the weight of the print job by detecting and retaining user information and document features for each print page based on at least specified print contents such as user print conditions and document features), assessing a printing ability of the plurality of printers to print the print job (col. 8, lines 24-27, 35-44 indicates that the printer selection means 25 for assessing a printing ability of printers by selecting a printer appropriate for printing for each page based on the printer state of each printer 31a-31c), and allocating the print job among the number of printers based on the weight of the print job and the printing ability of the plurality of printers (col. 8, lines 27-29, 44-48 indicates that the setting means 26 for allocates the print job by sets the print data generation means for generating the print data so as to relate the means to each of the selected printers).

As to claim 31, the second embodiment of Owa further teaches of dividing the print job into a number of print job portions each having a print job weight and allocates the number of print job portions among the number of printers (Col. 8, lines 56-60 indicates the setting means 26 for divides the print job into a number of print job portions among the number of printers by setting the print data generation means 22 for generating a number of print job portions such as the print page groups 30a and 30b for printing related to each of the printers 31a and 31b in fig. 7. Therefore, the print job is processed and its portions are established); And the third

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embodiment of Owa teaches all the print job portions are finished at substantially the same time (col. 16, lines 34-35 and 42-44: the print data such as the color print data, which takes longer to print, is transmitted preceding any other data . Therefore, a number of print data are transmitted at a substantially one time such that the number of printers completes the print job at substantially one time).

As to claim 32, the second embodiment of Owa further teaches that the number of print job portions includes a number of sequential print job portions (it is noted that the printer selection means 25 for selecting a printer appropriate for printing each print page “col. 8, lines 35-38”, and each print page is converted into print data by the print data generation means 22 so that it is printed at an appropriate printer “col. 8, lines 46-47”; and each of print page portions 30a and 30b would includes sequential print job portions such as page 1 to page 10 and page 15 to page 25 and page 11 to page 14 “in fig. 12b”).

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